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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,315	06/13/2001	Stephan Euler	10191/1776	5487
26646	7590	07/22/2004	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			VO, HUYEN X	
			ART UNIT	PAPER NUMBER
			2655	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,315	EULER ET AL.	
	Examiner	Art Unit	
	Huyen Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/13/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

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Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/13/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Specification***

1. The disclosure is objected to because of the term "voice recognition" is misused for what nowadays is called --"speech recognition"-- in the speech signal processing art. While "**voice** recognition" and "**speech** recognition" were both once used interchangeably to refer to spoken word recognition, nowadays the terms are distinguished. The term "**voice** recognition" now denotes identification of **who** is doing the speaking (class 704/246), while "**speech** recognition" (or "word recognition") denotes identification of what is being said (class 704/251). Appropriate correction to the proper terms of art is required.

Claim Objections

2. Claims 1-6 are objected to because of the following informalities: The disclosure is objected to because of the term "voice recognition" is misused for what nowadays is called --"speech recognition"-- in the speech signal processing art. While "**voice** recognition" and "**speech** recognition" were both once used interchangeably to refer to spoken word recognition, nowadays the terms are distinguished. The term "**voice** recognition" now denotes identification of **who** is doing the speaking (class 704/246), while "**speech** recognition" (or "word recognition") denotes identification of what is being said (class 704/251). Appropriate correction to the proper terms of art is required.

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1-2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Elko et al. (US Patent No. 4741038).

5. Regarding claim 1, Elko et al. disclose speech recognition device comprising:

a feature extraction device for receiving a plurality of input signals routed in parallel via a plurality of respective, separate channels, the feature extraction device including a plurality of feature extraction stages, each of the plurality of feature extraction stages being separately situated in a respective one of the plurality of separate channels and each having a respective output for providing a respective feature vector (*referring to figures 1 and 9, Feature Extraction Circuit 140-1 to 140-R*);

a shared transformation device coupled to the outputs of the feature extraction stages, the transformation device forming transformed feature vectors (*col. 10, ln. 1-53 or steps 1010-1025 in figure 10*); and a classification unit for classifying the transformed feature vectors provided by the transformation device and providing at least one output signal corresponding to at least one determined

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class (referring to figure 11 and element 145 in figure 1 or col. 10, ln. 54 to col. 11, ln. 67).

6. Regarding to claims 2, 4, and 6, Elko et al. further disclose that the transformation device is a linear transformation device (*the FFT in block 1010 in figure 10 is a linear transformation process*), the transformation device depends upon sample data (*figure 1, sample data are inputted before FFT process can be performed on the signal*), and interference noise reduction stages allocated to each of the feature extraction stages, the interference noise reduction stages being connected in series (col. 11, ln. 1-39).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elko et al. (US Patent No. 4741038) in view of Sejnoha (US Patent No.

6260023).
Claim 3 is dependent on claim 1 which is anticipated by Elko for the reasons above.

9. Regarding claim 3, Elko et al. do not disclose that the transformation device performs one of a linear discriminant analysis and a Karhunen-Loève

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transform. However, Sejnoha teaches that the transformation device performs a linear discriminant analysis (*col. 5, ln. 18-67*).

Since Elko et al. and Sejnoha are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Elko et al. by incorporating the teaching of Sejnoha in order to enhance speech recognition accuracy.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elko et al. (US Patent No. 4741038) in view of Flanagan et al. (US Patent No. 5737485).

Claim 5 is dependent on claim 1 which is anticipated by Elko for the reasons above.

11. Regarding claim 5, Elko et al. do not disclose that the classification unit is trained under conditions corresponding to a designated application situation. However, Flanagan et al. teach that the classification unit is trained under conditions corresponding to a designated application situation (*col. 3, ln. 47 to col. 4, ln. 41*).

Since Elko et al. and Flanagan et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Elko et al. by incorporating the teaching of Flanagan et al. in order to achieve a recognition accuracy for a distant-talking speaker in a noisy/reverberant environment.

Conclusion

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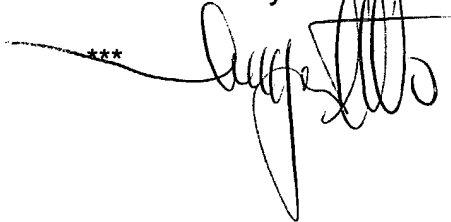
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo

Handwritten signature of Examiner Huyen X. Vo, with three asterisks (***) to the left.

July 13, 2004

Handwritten signature of W. R. Young.
W. R. YOUNG
PRIMARY EXAMINER

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